

fixed to the volume before us, that the Agronomic Institute at Joinville-le-Pont obtained suitable laboratory accommodation only when Malleuvre was nearing the end. His devotion to duty did, however, reap the reward of enthusiastic pupils who have introduced scientific methods into fields which they might not otherwise have reached; M. Wery specially refers to the fruitful collaboration between Malleuvre and M. J. E. Lucas, whose notes of his professor's lectures have been published. The book is indeed a clearly and practically written treatise on the physiology of animal nutrition suitable for any intelligent student in a school of agriculture.

The first eight chapters deal with the general principles of the subject, and cover ground fairly familiar to the student of general animal physiology. Malleuvre was a definite adherent of the isodynamic school, and subjected Chauveau's experiments to searching criticism.

Chaps. ix. and x. are of particular interest to the farmer, and Malleuvre's tables, based upon Kellner's methods, should be of great use.

In the chapters which follow, the effects of exercise, environment, and heredity upon farm animals are considered, and the work concludes with a short, but clear, account of methods available for the protection of stock against infectious diseases.

Had the author himself lived to publish a textbook, he would probably have devoted rather more space to recent work upon accessory food substances, and perhaps have made more use of American work on calorimetry. The chapter on heredity also needs some revision. These are, however, minor points; taken as a whole, the book is well adapted to the purpose for which it was designed.

*Rapid Methods for the Chemical Analysis of Special Steels, Steel-making Alloys, their Ores and Graphites.* By C. M. Johnson. Third edition, revised and enlarged. Pp. xi + 552. (New York: John Wiley and Sons, Inc.; London: Chapman and Hall, Ltd., 1920.) 36s. net.

THE number of elements employed in the manufacture of alloy steels appears to be ever increasing, and to it there have been added, during the last few years, cobalt, uranium, zirconium, and cerium. Accordingly, a new edition of the above work, embodying the latest American practice in the analysis of such steels and of the alloys used in their production, is very welcome.

Amongst other features which the one hundred pages of new matter contain are: A new and original method for the determination of sulphur; the partial separation of iron from such elements as vanadium, uranium, zirconium, and aluminium by a process which dispenses with the "ether separation"; important modifications of older processes; illustrated descriptions of new forms of laboratory appliances; and a chapter on micro-graphic analysis.

Repetition of unnecessary details and more than a few obvious mistakes betray a somewhat hasty preparation, and, moreover, the arrangement of the whole subject-matter leaves much to be desired, though the last defect is remedied to some extent by a good index and numerous cross-references. Steelworks' chemists, at any rate, will doubtless overlook deficiencies of this nature in a book which emanates from such a trustworthy, experienced, and original worker as its author.

*Stones and Quarries.* By J. Allen Howe. (Pitman's Common Commodities and Industries.) Pp. x + 137. (London: Sir Isaac Pitman and Sons, Ltd., n.d.) 3s. net.

MR. HOWE is specially qualified among geologists by his economic studies at the Jermyn Street museum for writing a book on stones and quarries that will interest the general reader. Such readers constitute the bulk of intelligent persons, who prefer to understand what they meet with on their travels and are not content with mere wonder at the wealth of the earth and the ingenuity shown in its exploitation. Mr. Howe begins by showing the æsthetic feeling for cut stones among the Egyptians 7000 years ago, and the gradual development of carved and polished work by race after race, down to the cathedral builders of western Europe. "Porphyry," by the by, was practically unknown to the Egyptians, and one would scarcely gather, from the associations ascribed to it on p. 3, that the Taj Mahal was a work of the seventeenth century. Two felspar formulæ on p. 10 have escaped proof-correction, but these are only trifling criticisms. The numerous views of quarries in active operation, and the description of the machines used, open up a new and healthy field before the professional petrologist. The use of columnar basalt for road-sets in Italy and for the retaining walls of canals in Holland might be added to Mr. Howe's instances of the applications of rock-structure to human needs. G. A. J. C.

*The Chemistry of Synthetic Drugs.* By Dr. Percy May. Third edition, revised. Pp. xv + 248. (London: Longmans, Green, and Co., 1921.) 12s. 6d. net.

VERY few changes have been made in this work since the first edition, reviewed in NATURE for September 21, 1911, was published. The third edition, which is now issued, follows closely on the heels of the second, and, indeed, the publication of information gained during the war in the chemistry of poisons, irritants, etc., appears to constitute the greater part of the alterations which have been made. The poisonous nature of most poly-nitro-compounds has been completely established, and new facts relating to other toxic substances, such as phosgene and mustard gas, which were used by the belligerents are recorded. The volume will no doubt be found extremely useful by those engaged in the manufacture of synthetic drugs.